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The Proposed Division Passes in Review

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WHEN Paul, the Apostle, first epistled the Thessalonians to "Prove all things, hold fast to that which is good (Thessalonians, Book II, Chap. 1, par. 21, dated AD 54) he penned a perfect directive for the test of "the proposed division and higher units."

Verily, in the topsy-turvy world drift of the present era, might not the truth of this simple verse find timely application in any field of human activity—be it military, social, economic, or political?

Perhaps this conservative biblical text is more modernly expressed by the sage who said: "When it is not necessary to change, it is necessary not to change." A static organization stagnates into obsolescence and becomes outmoded; we must have change for progress, but change in itself does not necessarily signify progress. Basic faults in any system demand correction, and outmoded methods and organization should, of course, be changed. It is conservative but sound, however, to base such changes upon simplicity, thorough logical analysis, and proven practical experience, rather than upon drastic departures towards untried and theoretical ideas.

We have lately witnessed a state of flux in organization to such extent that the word has become almost synonymous with reorganization. During this status of fluidity, it has been said that "there is

nothing permanent but change." We must have "open minds" for "open warfare" and "stabilized" minds harden the intellectual arteries.

The accentuated modern need for mental flexibility is not discounted, for the tempo of evolution has been stepped up by comparatively lightning changes. These conservative and liberal schools of thought remind one of the difference between the fundamentalist and the modernist; the only difference is that the modernist says "there ain't no hell," while the fundamentalist says "the hell there ain't."

Military history records the slow and almost imperceptible evolution of the long-bow, the war chariot, the blunderbuss, the wheeled cannon, the modern era of the magazine rifle, recoil mechanisms, smokeless powder, the machine gun, the airplane, toxic gas, motorization, and mechanization. The only elements that have not changed in the marches of martial time are man himself, and the immutable principles of war; and yet, it has been truly said that each succeeding war has always been fought with the weapons of the preceding war. In the past, it has seemed that the necessity of actual emergency has been the only forge which could weld in the white heat of war new and improved weapons into definite form and usage. Neglect (or inertia) during intervening

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years of peace, to keep abreast or ahead of modernized military progress, often has kept nations, at the outset of hostilities, just *one war behind* in modernized organization, armament, and training.

It seems an ageless span between the era of the modernized seventy-five to the dim epoch when the youthful David first practiced fire direction (and conduct of fire) by "bringing to bear (with pebble and sling) at the proper time and place" a destructive fire upon the target—and smote, with range and deflection correct, his giant enemy, Goliath.

But in two decades intervening between the World War and the present, the accelerated evolution of modern trends has almost reduced the battalions of 1914 to a state of obsolescence.

Very few new weapons have been introduced to disrupt or exploit the early operations of a future war, but the improved present means and methods have outstripped those of the near past as to compare in transportation the automobile with the stage coach. And so, perhaps, many nations have now learned the lesson of military history to keep one jump ahead by peacetime modernization, and forward-looking plans to keep abreast with the rapid changes in armament, equipment, training, and organization of the present and future trends.

A resumé of recent organizational changes in the Field Artillery may lend concrete and up-to-date emphasis to these random reflections.

During the past several years, important and frequent changes have occurred in the organization of the Field Artillery arm. The complete reorganization and extension of motorization in 1934 is past history.

This reorganization added many new active units, increased the number of motorized firing batteries by 18 percent, and afforded a more effective framework

for mobilization expansion. In some respects, this expansion of active units and redistribution of personnel resembled the parable of the loaves and fishes except there were no basketfuls left over), as it was accomplished with a scant increase of grades and ratings, at a nominal cost, and with the physical transfer, except at the flagpole, of only several hundred enlisted men.

These changes, or overhauling of the Field Artillery, were followed closely in 1935 by the enlisted increase of the Army, whereby the Field Artillery was expanded in the 7th grade approximately 50 percent of the then existing total strength. The following year a generous increase in vitally required grades and ratings was authorized. The need for additional active field artillery units still existed, and is now considered to exist for a balanced force. During this transitory period of rapid changes in personnel, armament, and equipment, new tentative or special tables of organization, to keep stride with new conditions, were apt to become obsolescent before they were prepared, processed, and the printer's ink given time to dry.

In the offing were the Service-wide studies on the Modernization of the Division and higher units, and the Supply System for the field forces. This modernization program presaged a reorganization from the cellar to the ceiling of the present organizational structure.

Parenthetically, it may be of interest to add that new special tables have been and are now issuing for every type of field artillery unit. These tables are expected to stabilize and coordinate present peacetime organizations of similar-type units in the interim awaiting further changes in organization of the Army. For the first time, these new tables of organization closely approximate actual personnel strengths in grades and

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ratings; and, though peace tables, they are believed to reflect adequate means for essential combat strengths, with the exception of commissioned personnel and combat trains. If one is seeking a course of training in infinite minutiae, or patience in detail, preparation of a Table of Organization, or, for that matter, a Table of Basic Allowances, is highly recommended.

And now we arrive, at long last, to the magnum opus of reorganization—The Proposed Division.

During the past two years, much fuel has been added to the flame of the burning questions concerning the reorganization of the division and higher units, and the modernization of the supply system of the field forces. In probably no other field of thought has there been so much conjecture, wide discussion, comprehensive and constructive study, and lively differences of opinion, as upon the timely and vital subject of modernization of the organization of the Army.

It is natural to expect that this cross-section of opinion regarding the reorganization of the division should hold divergent views and many varied solutions; no doubt this is a healthy situation of pros and cons, as two or more heads are better than one, and both the advantages and disadvantages of numerous factors must be weighed exhaustively in order to reach thoroughly thought-out decisions.

Chapters could be written on this intensely interesting topic, and, indeed, volumes of studies and recommendations from many sources have been presented. By no means has the least discussion and debate revolved around the field artillery component of the proposed division.

There are certain fundamental factors of major interest for which, for the sake of clarity and brevity, reference will be made to the accompanying graphical

comparison of the salient features between the present and the proposed divisions.

The first item (Item I) relates to strengths. It is generally agreed that one of the faults of our present division is that it is too bulky and too unwieldy to be highly mobile and easily manageable in a warfare of movement.

Upon the conclusion of the World War, General Pershing recommended a smaller, lighter division, organized upon the triangular system, for increased maneuverability in open warfare.

The proposed division represents a reduction in total strengths of approximately 41 percent; in infantry strength of approximately 44 percent; in artillery strength of approximately 56 percent; while the strengths of the service troops of the present and proposed divisions do not differ in comparison by so wide a margin. The latter is noteworthy, as relatively the strength of the service troops—which are nearly one third of the infantry strength and approximately the strength of the field artillery component in the proposed division—have not been decreased to correspond with the reductions in the strengths of the two principal combat arms.

Undoubtedly, the reasons for the above may be found, in general, to be based upon the policy of providing, organically, only the most essential "housekeeping" equipment and transport within combat units, and transferring field trains to the service train. What has been done in the proposed division is to consolidate service activities and call them service troops. It may be considered that certain services are performed in both the present and proposed divisions, but in the present division some of the troops performing them are artillery and infantry, whereas in the proposed division they are all service troops.

With this revised conception of service

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troops, we find, in the proposed division, a policy of relegating contingent means to rear and higher echelons, a more centralized system of pooling, and a literal adherence to functional divisions of responsibility and control among the arms and services. The latter policy is of particular interest to the artillery, as relates to personnel for the proposed functions of ammunition supply and signal communication. In effect, the elimination of the brigade ammunition train, and the transfer and control of this unit's operation to service troops, together with the insertion of an attached signal platoon in the regimental headquarters battery constitutes, respectively, a change of hat cords from Field Artillery personnel to that of the Quartermaster Corps—technically supervised by the Ordnance Department—and to the Signal Corps.

In regard to the ammunition-supply system, it is proposed that there should be one ammunition-supply system for all types of ammunition used in the division. It is further proposed that the system, as far as practicable, should be based upon the refill principle, which means that a division should carry in its service trains, as a reserve for its units, such quantities of ammunition as may be required to reload completely the combat trains in the division. This significant departure eliminates the present brigade ammunition train as such.

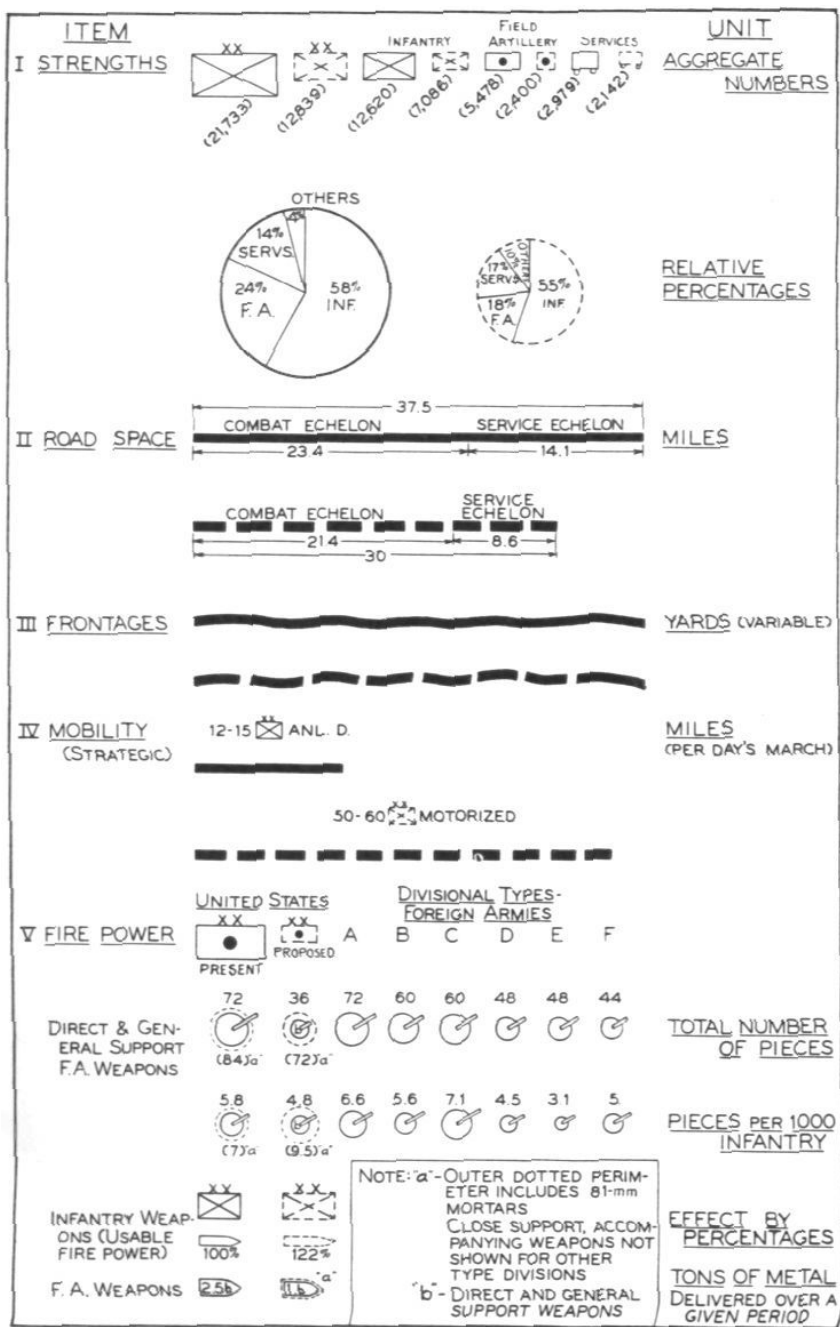
The other feature of personnel functions relates to the important question of signal communication. The proposed division provides for the substitution of signal-corps personnel for part of the artillery personnel in the artillery communication net. It is proposed that a signal-corps detachment should be responsible for communication at regimental headquarters and for lines to the field artillery battalions, but not for communication within the battalions.

Tentative tables of organization for the proposed division provide for a signal-corps detachment of one officer and 41 men attached to the regimental headquarters battery, but not for message-center personnel nor telephone operators at regimental headquarters. The latter are provided by field artillery personnel.

Whatever may be the conflicting views on these controversial changes whether the functions of ammunition supply and signal communication represent atoms in the molecule of field artillery combat—this deponent sayeth not, as it is not considered prudent to venture any comments either for or against these particular proposals. The purpose of this article is to present an unbiased, informative analysis of some of the salient features of this vitally important subject of reorganization. In this modest attempt, the writer refrains from expressing any opinions which might be construed as critical of an organization which has been approved for test. Prejudices or preconceived convictions in advance, favoring the beliefs of any arm or service, are not considered conducive to a fair and open test of the proposed reorganization.

With new developments in weapons and equipment, military thought goes through a cycle of debate as to their proper place in organization; yet, all such clouded questions along functional lines have been progressively clarified by a cardinal principle—analysis of the characteristics and mission of the arm, followed by endowment of the arm with the means to the end. This appears to be the sound policy for fixing unit responsibility and preserving principles of command.

The next three features listed on the diagram are most important factors in the consideration of a proposed division, but happily, they are not such controversial subjects.



GRAPHICAL COMPARISON OF SALIENT FEATURES, PRESENT (SOLID LINES) AND PROPOSED (BROKEN LINES) DIVISIONS, WAR STRENGTH.

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Briefly, considering each in turn, the item of Road Space may present at first glance an erroneous impression. It appears that the road space of the new division, notwithstanding its great reduction in strength and decided increase in mobility, has not been materially reduced over that of the normal division. The Item IV factor of Mobility immediately enters into this equation. On account of the "high speeding" of the day's march afforded by motorized columns, what is familiarly termed "road space" for the present slow-motion division is, in reality, "time length" for the proposed division.

The most interesting point of logistics here involved, is that the time required for the motorized division to pass a point (its time length), remains constant, for all practical purposes, at any rates of speed over about five miles per hour. This statement is obvious when it is considered that the greater speed largely offsets the required increased distance between vehicles. Therefore, in planning march tables for the proposed division, time length and not road space will always be the main concern when the rate of march exceeds that of the present division.

The next factor is that of Item III, Frontages. This third feature is related to Item V, infantry firepower. On account of the increase of usable firepower in the proposed division, and notwithstanding the drastic reduction in infantry strength, the assumption is that the front occupied by the new division will be no less than, and will approximate that of, the present division. The inclusion of four rifle companies in the proposed infantry battalions, or one more than normal, also seems to confirm this assumption as a conservative one. In the event that such an assumption is proven by actual test as approximately correct, then it follows as logical that the artillery firepower, based upon the division front to support, should

be no less in the proposed division than in the present division. While frontages, and the number of guns per 1,000 infantry offer general yardsticks, the weight of artillery metal that can be delivered, which measures the square yards of hostile areas effectively covered, seems to afford a more conclusive criterion of determining the number and calibers of artillery pieces. In the organization of the proposed infantry-artillery team, the organization, strength, and armament of the infantry component must, necessarily, exercise a decisive and controlling influence on the organization and armament of its associated artillery component.

Item IV concerns the very important factor of mobility. It is noted that the proposed division, whose elements are completely motorized, with the exception of rifle companies, has been geared up to a fourfold differential. By utilizing reserve vehicles of the Motor Battalion, and the organic transport of the proposed division by a system of shuttling, it is believed the whole division can be moved on its own wheels a distance of about fifty miles in one day.

The distinction must be clearly drawn between strategic mobility, involving motor speed on highways, and tactical movement, involving operative mobility in the combat zone.

When it is considered that the tentative tables of organization set up for the proposed division indicate a grand total of 1,875 organic motor vehicles, one can reflect that the time length of the combined combat and service echelons will be appreciable even in strategic movements on the open road. In contradistinction to the highway speed, the tactical, operative mobility within the combat zone is easy to discern when one recalls any trip by automobile to a big football game over the weekend. We may roll along at a speed of forty plus

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until the vicinity of the stadium is reached, and that is strategic mobility; but in that battle zone of traffic jams, police whistles, and hectic halts, it is far quicker, both coming or going, to park at a reasonable distance—if one can and walk to the game! And that is tactical mobility.

It must be remembered that most offensives in the World War were stopped because they could not go two miles or less per hour, and not because they could not go twenty miles or more per hour. However, if the tactical mobility can be maintained, as heretofore, the advent of motorization has added immeasurable advantages in strategic mobility. Herein lies the greatest advantage in the proposed division—mobility, the principle of war which is so conducive to initiative and to surprise.

The introduction of motorization may well prove as revolutionary in the art of tactics as the invention of gunpowder, and perhaps the pendulum of movement for future warfare will swing back in its cycle past the World War, and find its lessons in the fast changes of direction, movement, and surprise, in the open warfare of the Civil War.

The law of physics, MV^2 , applies in the age-old striving to increase simultaneously those two most vital elements of combat—mobility and firepower. Unfortunately, these factors are inversely proportional, so that one is generally increased at the expense of the other. The main objective of the proposed division is to increase mobility and concurrently to add striking power—in short, to produce a more effective fighting machine. The V^2 can readily be raised, yet the Mass, or requisite firepower, must possess sufficient weight in the hammer to sustain the accelerated blow.

Despite the speed of motor columns, which completely revises the slow-motion conception of time-and-space factors, it is well to reflect that battles

will still be won by fire and movement; and, in the final analysis, freedom of maneuver, and *certainly* of movement on the battlefield, will be dependent, as heretofore, upon firepower.

We now arrive at the Item V and last consideration: Firepower.

This problem is approached with particular attention to the firepower of the proposed field artillery weapons. It is apparent that in comparison to the increase of usable infantry firepower, that of the field artillery has not been relatively increased. In increasing the divisional firepower, a sharp differentiation should be made between infantry and field artillery firepower as affecting respective strengths. The infantry is able to present the paradox of reorganizing with greatly reduced strength in its component, and simultaneously increasing its firepower by an increase in the number and types of semiautomatic weapons and machine guns; the field artillery has no similar method of increasing the rate of fire of its cannon, for a substantial increase of field artillery firepower requires, for effective service, the addition of more guns, more ammunition, and more men. No doubt the vastly increased firepower of modernized armies will require corresponding increases in neutralizing artillery firepower, yet the infantry—field artillery firepowers are distinct within their own spheres on account of the differences in respective targets.

War experience shows that infantry losses have been inversely proportional to the artillery ammunition fired in the infantry's support, and the number of guns per 1,000 infantry has progressively increased with each succeeding war, as have the casualties caused by field artillery weapons. In attempting to test, in the absence of enemy opposition, the adequacy of firepower of the field artillery component, a determining

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factor should include evaluation of the artillery armaments with which it might have to duel. Other things being comparable, that division which is inferior in artillery armament will be no match for its opponent.

An analysis of the total number of direct and general supporting pieces and the number of such pieces per 1,000 infantry in the divisional field artillery of six major powers is shown under Item V. Several definite trends are discernible in the field artillery armament of modern armies; namely, a decided tendency towards motorization, inclusion of heavier calibers, substitution of howitzers for guns in the division, and development in two zones: First, hostile rear areas, where larger calibers of great destructive effect are to be used; and second, that short "twilight zone" immediately in front of the infantry, where hostile machine guns are to be encountered, and where instant fire is desired. A quantitative comparison of armament as shown on a chart is apt to be misleading, unless a qualitative comparison as to calibers also is considered. This consideration presents the question of types of calibers proposed in the field artillery component, and the qualitative effectiveness of the 75-mm. howitzer and 105-mm. howitzer as compared to the 75-mm. gun-howitzer (M-2) and the 155-mm. howitzer, respectively.

Without doubt, advocates of the 75-mm. and 105-mm. howitzer as organic field artillery armament of the proposed division consider the main advantage of superior tactical mobility and closer support with curved-fire cannon, while proponents of the modernized 75-mm. gun and the 155-mm. howitzer hold the view that *qualitatively* these weapons are superior in range and effectiveness, and that they possess a degree of mobility comparable to that of the division itself. The fact must be recognized that the modernized 75-mm. gun is also a

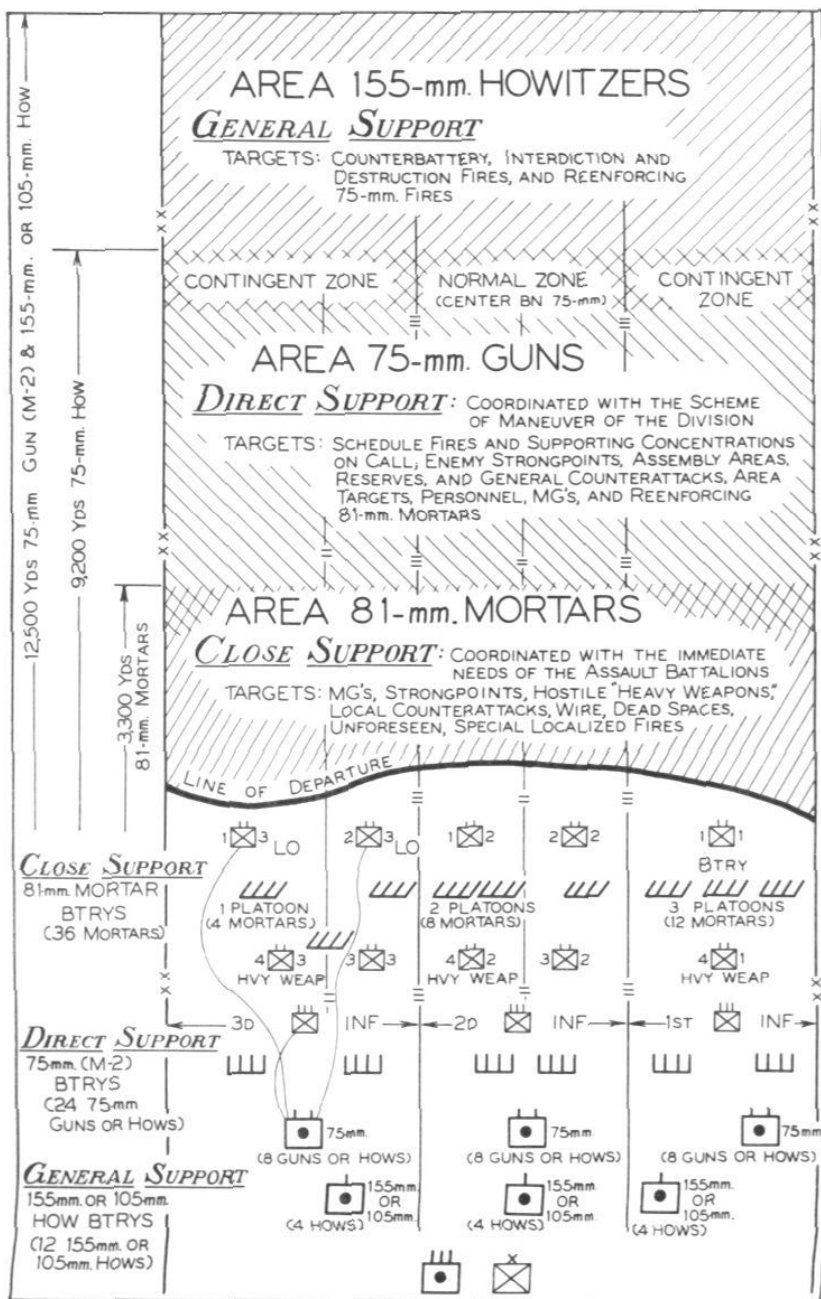
howitzer. It is further felt that, from the standpoint of availability and costs, the replacement of the 75-mm. gun and the 155-mm. howitzer is unjustified.

Upon the basis of quantitative comparison, the organization of each support battalion with two instead of three light batteries for direct support may be considered to provide inadequate supporting firepower. The comparison shown does not appear in such unfavorable light when the thirty-six 81-mm. mortars are included in the category of direct-support armament. On account of the great differences in range and tactical employment, logical comparison of the 81-mm. mortar and 75-mm. gun or howitzer is difficult. It is noted, however, that a comparison is also shown under Item V of the chart to include not only direct-, and general-support field artillery weapons, but 81-mm. mortars in the present and proposed divisions. The rôle of the 81-mm. mortar as close-support accompanying artillery will probably prove a paramount issue. This problem has involved much thought and discussion and will be pressing for a sound solution in the field tests.

In commenting upon the pros and cons of this interesting topic, and possible methods of employment of the 81-mm. mortar batteries, reference is made to the accompanying chart.

It is noted that the line of demarcation is drawn distinctly between the three categories of close-, direct-, and general-support artillery. The respective missions, target areas, and relative positions are indicated on the schematic tactical set-up.

It is considered that diversion from planned fires will find its most justifiable application when it contributes to the effectiveness of the action of the infantry as a whole, and the needs of the infantry battalions to overcome local resistance on their own immediate fronts, which are unquestionably recognized



TACTICAL SET-UP
 ILLUSTRATING ROLE OF 81-MM. MORTAR FOR CLOSE SUPPORT. SCHEMATIC DIAGRAM
 SHOWING ARTILLERY SUPPORT OF THREE INFANTRY REGIMENTS IN ATTACK.

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as pressing, are best met by accompanying artillery. In such circumstances, the unforeseen, special, and localized fires are effected by the infantry—artillery liaison on the spot, where artillery communication is simple.

A psychological factor is introduced with this advanced echelon of 81-mm. mortar batteries; one-half of the number of artillery pieces in the proposed division are up where the fighting is, so that this forward artillery is not only supporting the attack, but is attacking in close trace with the infantry assault battalions. As to the question of which arm, the infantry or the artillery, should man this highly efficient weapon, the answer would seem to depend on a clear-cut determination as to which arm is to be responsible for this close-in, quick-fire, support mission. If it is to continue to be an artillery mission, it is logical that the artillery should have the weapon. On the other hand, if the infantry is to have the weapon, it follows that the artillery should be relieved of the mission. It does not seem economical employment nor sound organization for both combat arms to have the same type of weapon for the same mission.

The accompanying chart shows, in the three infantry regimental sectors, three different combinations of employing the three platoons of four 81-mm. mortars each, in the three front-line mortar batteries.

As in the 1st Infantry zone, the 81-mm. battery, which forms an organic element of the light artillery battalion in direct support, might be held together under central control and employed in the fire-direction scheme of the battalion. In defense and in preparation for an attack, it might be so used to better advantage than by a plan to attach one platoon to each infantry zone.

Perhaps it will be more normal employment in the role of accompanying artillery so to attach these batteries and

platoons to infantry regiments and battalions. It would seem that any unnecessary delays in calls for fire would defeat the main purpose of these batteries, so that the responses would normally be direct from the infantry unit to the 81-mm. battery or platoon.

Such decentralization of employment suggests habitual attachment rather than direct-support employment. The question arises as to whether the 81-mm. battery would be attached to the 4th (heavy weapons) battalion of the infantry. It might conceivably be so attached and placed in direct support of the attacking battalions, thus keeping the platoon fires in the hands of the battery commander.

Another method of extreme coordination and centralized control suggests itself where the battery commander, in direct support of the regiment, would control the fires of his three platoons through a fire-direction center. This would appear to be a doubtful procedure. Also, the battery could be split into platoons and each assigned in direct support of assault battalions.

There are other possible combinations of attachment or direct support. The platoons of one or more batteries could be attached to the infantry regiments, and the remaining mortar batteries held in direct support of the main effort. On account of the limited range of the mortar within its normal infantry zone, flexibility of fire to cover contingent zones appears a doubtful task. Despite the fact that the expression "according to the situation" has been worn threadbare, it would seem that the method of employment of the mortar batteries will depend upon their most effective use in the particular situation. Therefore, it may be found erroneous to anticipate their habitual and rigid role as either "attached" or in "direct support." They

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should be handled flexibly so as best to carry out the special missions occurring at the time in the different phases of action. In the final analysis, the tactical employment is resolved from the missions.

The basic reason for providing these close-support units is to furnish instant action and to fill a gap of accompanying artillery fire which has long existed. It would seem to follow that in most situations the operation of these "front-line platoons" as a sort of three-battery battalion in direct support of regimental fronts would tend to defeat their *raison d'être*. The opinion is ventured, therefore, that the 81-mm. units will be employed usually, but not always, as platoons attached to assault battalions, and that their fires will be locally requested and informally obtained on targets of opportunity.

The responsibility of 81-mm. ammunition supply, charged to the light battalion combat train, obviously presents many difficulties to the normal replenishment of the 75-mm. batteries. Without question the greatest obstacles will be found in the last mile forward. Will ammunition carriers manhandle these loads up to the front-line positions? What communication will be required for the 81-mm. battery, SCR 194 radio sets to the battalions, and light wire as an intrabattery communication net to platoons, or simply runners? These and many other questions of employment arise for solution by practical test. One can tell what the house really looks like after it is built, but it is most difficult to prevision the projected structure from architectural blueprints.

In the consideration of the Corps and Army units, when composed of divisions of the type approved for test, it seems manifest that the principle be accepted as

a fundamental concept that the increased dependence of the proposed division, divested of many supporting troops and auxiliaries, places normal reliance upon higher echelons—particularly upon the Corps.

It must be clearly recognized that the proposed division will normally require reenforcing means from higher echelons for sustained combat. In applying the principle of compensation as regards artillery, it would seem logical that the *total power* of the artillery of a reorganized Corps should be *not less* than is now provided in a normal-type Corps. On account of their more close association and integration with the type divisions proposed for test, the reorganization of the "higher units" would seem to demand a parallel or symmetrical organization—particularly of the Corps—with the division organization so as to lend itself easily to reenforcing the organic weapons and troops of its divisions.

The proposed division is the keystone of the organizational arch. Its important field test next fall should establish the point of origin or foundation for the organization of higher units. In the meantime, the remark of an enthusiastic femme at a West Point hop is recalled. She exclaimed to her cadet O. A. O.: "Oh, I just love the Army; by the way, where is *it* now?" We know where it is at the moment, and we can speculate with keen interest as to whither it is bound. The Army appears to be definitely "on the way" towards a more modernized and effective fighting machine.

In reaching that goal directly, detours may be avoided at the crossroads by checking with an occasional backsight, and heeding the signpost which cautions: "Prove all things; hold fast to that which is good."